The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated December 18, 2007. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-17 stand for consideration in this application, wherein claims 11-12 are being amended. All amendments to the application are fully supported therein. Applicants hereby submit that no new matter or new issue is being introduced into the application through the submission of this response.

Formal Rejections

Claims 11-12 were rejected under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement, and claim 12 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The claims are being amended as required by the Examiner.

Specifically, with respect to the amendment to claim 11, the "analysis information" that is the subject matter of this claim relates to the analyzed result at q=0.05 indicated as a solid line in Fig. 11 or as a lod score shown with the network display in Fig. 12 (see Example 2, p. 22, line 5 to p. 23, line 22). The "analysis information" is external information from, for example, The Journal of Clinical Endocrinology and Metabolism 88 (6), pp. 2947-2950, 2003, as indicated in the specification. Further, regarding claim 12, the amendments made therein are supported on p. 17, line 8 to p. 20, line 4. Thus, support for the above-noted amendments may be found in the disclosure of the present invention. Withdrawal of the above formal rejections is respectfully requested.

Prior Art Rejections

Claims 1-5, 7-9, 11 and 16-17 were rejected under 35 U.S.C. §102(b) as being anticipated by Miller et al. (US Publication No. 2002/0091678). Further, under 35 U.S.C. §103(a), claim 10 was rejected as being unpatentable over Miller '678 in view of Murray et al. (US Patent No. 6,876,930); and claims 6 and 12-15 as being unpatentable over Miller '678

in view of Chamberlin et al. (US Patent No. 6,941,317). Applicants respectfully traverse this rejection for the reasons set forth below.

Claim 1 as amended recites that a network drawing system comprises: a first input unit designating a first query having terms belonging to a first category; a second input unit designating a second query having terms belonging to a second category; a data storage device storing terms belonging to a third category in a form of a table, the terms of the third category comprising terms from the first category and the second category; a calculation device which calculates a relationship between the input first query and second query through a plurality of terms using the table stored in said data storage device, the table including a degree of association of a relationship between terms belonging to the third category; and a display device displaying on a screen a network of terms connecting the first query and the second query through a chain of the plurality of terms based on a result of calculation made by said calculation device.

In the system as recited in claim 1, a data storage device stores degrees of association of relationships between terms belonging to a third category as a table. A degree of association of relationship between terms indicates how strongly the terms are associated with each other. The terms of the third category comprise terms from the first category and the second category which belong to designated first and second queries, respectively. A calculation device calculates a degree of association of a relationship between the first term and second term through a plurality of terms belonging to the third category using the table. Here, the plurality of terms are corresponded in a chain of association, for example, the first query<=>terms A<=>term B<=>the second query, and the strength of the association of the first query and the second query is calculated based on the corresponding relationships as follows the first query<=>terms A, terms A<=>term B, terms B<=>the second query. The calculation method is described on page 5 of the present specification. A display device displays a network of terms connecting the first query and second query through the plurality of terms based on a result of the association made by the calculation device. Thereby, a term relationship existing between the first query and the second query can be found. Consequently, it is easy to find an association degree between terms, which may not at first be considered to be associated with each other.

In contrast, the Examiner asserts that paragraph [0056] of Miller '678 states that "the processor 20 projects the relationships calculated in the step S4 to points along the query rays," meaning that "the relationships are displayed through a plurality of the terms used in

the queries." Applicants will contend that the concept of a "plurality of terms" as expressed in Miller '678 is substantially different from 'a chain of the plurality of terms' in the present invention. In particular, the plurality of terms in Miller '678 refers to terms processed via a single query sequence [query 1 => terms] (see example, *"[0055] In a step S4, the n-dimensional feature vectors of the data objects and the query objects are compared to one another. The step S4 determines relationships between each of the data objects 38 in the database and the query objects 31-36. . . . . [0056] In a step S5, the processor 20 projects the relationships calculated in the step S4 to points along the query rays as seen in FIG. 3. The plurality points along each query ray corresponds to the elements 38."*).

The present invention, on the other hand, defines the plurality of terms in the present invention are terms A and terms B processed via a sequence involving plural queries [query 1 => terms A => terms B => query 2]. The choice of terms A and terms B is based on the whole calculation of the sequence of query 1 => terms A => terms B => query 2.

In contrast again, Miller '678 just considers [query 1 => terms], and does not consider the whole sequence of terms in making a network as in the present invention (see *"[0043] FIG. 4 is a graphical representation of exemplary search results in visual representation 18 depicted using the digital computer following specification of a relevance threshold 52 in response to user input, in accordance with an embodiment of the present invention. The processor 20 (FIG. 2) is configured to display the rays 41-46 corresponding to user-input query objects 31-36 and to determine relative relationships between the points 38 distributed along the rays 41-46 and data stored in the database and to then represent a subset of the data having relevance to the query objects as points 38 distributed along the vectors 41-46 within the relevance threshold 52. In one embodiment, the relevance threshold 52 is represented by a circle or other geometric shape formed about the common origin 37."*). Therefore, Miller '678 cannot and does not show every element recited in claim 1. Accordingly, claim 1 cannot be anticipated by Miller '678.

Regarding the secondary references of Murray '930 and Chamberlin '317, these references were only cited for showing features recited in dependent claims. Even if these references were combined with Miller '678, neither reference provides any disclosure, teaching or suggestion that makes up for the deficiencies in Miller '678, such that their combinations would still fall short of rendering each and every feature of the present invention as claimed.

In other words, the combination of all three references would still fail to show or suggest the combination of a first input unit designating a first query having terms belonging to a first category; a second input unit designating a second query having terms belonging to a second category; a data storage device storing terms belonging to a third category in a form of a table, the terms of the third category comprising terms from the first category and the second category; a calculation device which calculates a relationship between the input first query and second query through a plurality of terms using the table stored in said data storage device, the table including a degree of association of a relationship between terms belonging to the third category; and a display device displaying on a screen a network of terms connecting the first query and the second query through a chain of the plurality of terms based on a result of calculation made by said calculation device. As such, the present invention, as recited in at least claim 1, is distinguishable from the combination of Miller '678, Murray '930 and Chamberlin '317.

Claim 16 is directed to a network drawing method, comprising the steps of: inputting a first query having terms belonging to a first category into a first input unit; inputting a second query having terms belonging to a second category into a second input unit; using a data storage device storing terms belonging to a third category in a form of a table, the terms of the third category comprising terms from said first category and said second category; calculating a relationship between the input first query and second query through a chain of a plurality of terms by using the table stored in said data storage device, the table including a degree of association of a relationship between terms belonging to the third category; and displaying on a display device a network of terms connecting said first query and said second query through said plurality of terms according to a result of calculating the relationship. Since claim 16 has substantially the same features as those of claim 1, the arguments set forth above for claim 1 are equally applicable here. Claim 1 being allowable as set forth above, claim 16 must also be allowable.
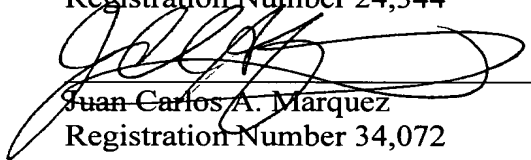
<u>Conclusion</u>

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

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